

Attorney Docket No. GENP:101\_US  
U.S. Patent Application No. 09/893,633  
Reply to Office Action of May 31, 2007  
Dated: July 31, 2007

### Remarks/Arguments

#### Claim Amendments

Claims 1 and 17 have been amended in accordance with source code AM23.DPR and paragraphs [0085-0089] of the specification for the instant application. The source code and the preceding paragraphs were discussed in the reply dated January 19, 2007. In the interest of brevity, the discussion in the January 19 reply is referenced but not repeated in the current reply. No new matter has been added.

#### Rejection of Claims 1 and 17 under 35 U.S.C. §112, Second Paragraph

The Examiner rejected Claims 1 and 17 under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant respectfully traverses the rejection.

The Examiner stated: "In particular, Claim 1 lines 4-5 states "determine at least one intermediate value", it is unclear how one would determine one intermediate value of said customized index call option... ."."

The Examiner stated: "In particular, Claim 17 lines 2-3 states "determine at least one intermediate value", it is unclear how one would determine one intermediate value of said customized index call option... ."."

The procedure for determining intermediate values, for example, as recited in Claims 1 and 17, is disclosed in source code AM23.DPR, and is described in paragraphs [0085-0089] of the specification for the instant application.

Claims 1 and 17 have been amended, in accordance with the source code and the instant specification to recite ranges: "selecting a range from the group consisting of a range between a first lattice node with an index value no greater than an index value for said customized indexed call option and a second lattice node with an index value at least equal to said index value for said customized indexed call option, and a range between a first epoch with a time no greater than a time to expiry for said customized indexed call option and a second epoch with a time at

Attorney Docket No. GENP:101\_US  
U.S. Patent Application No. 09/893,633  
Reply to Office Action of May 31, 2007  
Dated: July 31, 2007

least equal to said time to expiry” The beginning and end points of the two ranges recited in the claim amendments are precisely recited with respect to an index value for the customized indexed call option and the time to expiry for said customized indexed call option.

Claims 1 and 17 also have been amended, in accordance with the source code and the instant specification to recite a search for the intermediate value within the ranges recited *supra*: “searching a lattice data structure based on said range from the group to determine at least one intermediate value of said customized indexed call option” That is, the intermediate value is found within one of the ranges recited above.

Applicants respectfully submit that amended Claims 1 and 17 particularly point out and distinctly claim the subject matter which applicant regards as the invention and are therefore definite under 35 U.S.C. 112, second paragraph.

Applicants courteously request that the rejection be removed.

#### Rejection of Claims 1-23 under 35 U.S.C. §102

The Examiner rejected Claims 1-23 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 7,024,384 (Daughtery). Applicant respectfully traverses the rejection. Anticipation requires that all of the elements of the claim be taught within the four corners of a single reference.

#### Examiner’s Arguments

Applicants respectfully submit that the Examiner has failed to adequately or specifically address the following arguments raised in Applicants’ January 17, 2007 paper: Daughtery does not teach a customized indexed call option; Daughtery does not teach a term for an option; Daughtery does not teach more than one underlying for an option; and Daughtery does not teach switching underlyings. Instead, the Examiner has cited blocks of Daughtery without providing any arguments as to how the citations are particularly applicable.

Attorney Docket No. GENP:101\_US  
U.S. Patent Application No. 09/893,633  
Reply to Office Action of May 31, 2007  
Dated: July 31, 2007

## **Claim 1**

### **1. Daughtery does not teach an option with a term**

Claim 1 recites: “wherein said customized indexed call option *comprises a term...*” (emphasis added) In contrast, the very heart of Daughtery’s teachings is a “timeless” or “expirationless option.” For example: “Therefore, there exists a need in the art for a technique to limit the risk that an option purchaser must assume, which at the same time, is not unfair to the option Seller. More specifically, there exists a need in the art for an apparatus and process for calculating an option **which is not dependent on "time"** and is a fair value for the option Seller. **The applicant refers to such an option as an "expirationless option."**” (Col. 4, lines 1-7). (emphasis added)

“Accordingly, the present invention uses the expiring option premium algorithms to discount the effect of “time” according to the following process: (1) the exercise price is set equal to the current price of the asset and (2) the option premium is set equal to the margin requirement for the asset.” (Col. 7, lines 12-16). Further, Claim 1 of Daughtery recites: “A computer implemented method for valuing an instrument, comprising: receiving data associated with a financial instrument; processing the data using a processor to determine an **expirationless** option value for the financial instrument using an **expirationless** option, the **expirationless** option value being less than an underlying asset value of the instrument; and computing a value for the financial instrument using the **expirationless** option value instead of the underlying asset value in an option pricing algorithm.” (emphasis added)

Thus, one underlying and irreconcilable difference between Daughtery and Claim 1 is Daughtery’s sole focus on and sole teaching of expirationless options. This fact alone makes Daughtery nonanalogous and the teachings of Daughtery inapplicable to Claim 1.

### **2. Daughtery does not teach the ranges recited in Claim 1**

Amended Claim 1 recites: “a range from the group consisting of a range between a first lattice node with an index value no greater than an index value for said customized indexed call option and a second lattice node with an index value at least equal to said index value for said customized indexed call option, and a range between a first epoch with a time no greater than a

Attorney Docket No. GENP:101\_US  
U.S. Patent Application No. 09/893,633  
Reply to Office Action of May 31, 2007  
Dated: July 31, 2007

time to expiry for said customized indexed call option and a second epoch with a time at least equal to said time to expiry”

Daughtery does not teach these ranges. In particular, Daughtery cannot and does not teach a range involving epoch's because Daughtery is directed solely to an expirationless option. Epochs regarding a time to expiry are antithetical to Daughtery's teachings.

### 3. Daughtery does not teach the searching recited in Claim 1

Claim 1 recites: “searching a lattice data structure based on said range from the group to determine at least one intermediate value of said customized indexed call option” As noted *supra*, Daughtery does not teach the ranges recited in Claim 1; therefore, on that basis alone, Daughter does not teach the above limitation of Claim 1.

Applicants address the excerpts from Daughtery cited by the Examiner as follows:

Column 11 lines 20-37: Describes standard pricing algorithms for call options, none of which are applicable to pricing the customized indexed call option, in particular, to the search recited in Claim 1. Customized software, such as disclosed in the present application, is necessary to implement the data search recited in Claim 1. Standard software, using the Black-Scholes formula and the other algorithms cited in this excerpt are not suitable.

Column 12 lines 1-67: Describes Daughtery's implementation of the algorithm for pricing expirationless options. An expirationless option is not analogous to the option recited in Claim 1, which has a clearly recited term. That is, an expirationless option is meaningless and inapplicable with respect to the ranges recited in Claim 1, which form the basis of the search recited in Claim 1. For example, the limitation cited *supra* recites a term, and amended clause (a) of claim 1 recites “a time to expiry for said customized indexed call option” Therefore, the above citation from Daughtery is not applicable to Claim 1.

Column 18 lines 1-67: Describes Daughtery's calculations for the value of an expirationless option. As noted *supra*, an expirationless option is not analogous to the option recited in Claim 1. Further, this excerpt is not enabling because it contains an internal inconsistency; that is teaching the time until expiry for an expirationless option - a paradox. The calculations discussed in this excerpt are not relevant to the customized indexed call option and

Attorney Docket No. GENP:101\_US  
U.S. Patent Application No. 09/893,633  
Reply to Office Action of May 31, 2007  
Dated: July 31, 2007

cannot be used to price the call option. For example, the table at the top of column 18 makes it clear that the expirationless option does not have a term, in complete contrast to the customized indexed call option recited in Claim 1, which as noted *supra*, has a clearly recited term.

Column 20 lines 43-67: Asserts that Daughtery's invention can be used to price many different types of options; however, there is no support provided for this assertion. That is, at best, this assertion is an unsubstantiated "hoped for result." Assuming *arguendo* that there is any validity to Daughtery's unsubstantiated claims, which there is not, there is still no teaching in this excerpt that is applicable to the customized indexed call option recited in Claim 1, since the fundamental basis of all of Daughtery's assertions is an expirationless option calculation, which appears (Column 19, lines 1-54) to be based on a rearrangement of the Black-Scholes formula. The Black-Scholes formula does not apply to a customized indexed call option as recited in Claim 1, at least because it does not allow for a switch between the underlyings (the index and the constant growth rate) as is recited in Claim 1; therefore neither do Daughtery's calculations apply to the option recited in Claim 1.

Columns 21-24 lines 1-67: This text claims that all possible financial instruments are covered by the Daughtery patent. The above discussion regarding col. 20 is applicable to this text as well. That is, Daughtery is teaching an unsubstantiated 'hoped for result.' As noted *supra*, at least because Daughtery only teaches an expirationless option and does not and cannot address options with the ability to switch between multiple underlyings, Daughtery does not and cannot teach, suggest, or motivate the option recited in Claim 1.

#### 4. Daughtery does not teach the interpolation recited in Claim 1

Claim 1 recites: "interpolating in said at least one intermediate value of said customized indexed call option based on a set of predetermined parameters of the customized indexed call option to find said value; and, presenting an option to switch between said index and said constant growth rate at predefined intervals during a term for said customized indexed call option, wherein said customized indexed call option comprises a term and an index linkage to an index and a constant growth rate"

Attorney Docket No. GENP:101\_US  
U.S. Patent Application No. 09/893,633  
Reply to Office Action of May 31, 2007  
Dated: July 31, 2007

Applicants address the excerpts from Daughtery cited by the Examiner regarding the above claim limitation as follows:

Column 6 lines 31-67: States that the Daughtery invention can be used to "take advantage of the inefficiency associated with the unscientifically selected margin requirements" - i.e. to optimize margin positions held together with standard puts or calls by recasting them in terms of expirationless options. For example, Claim 1 of Daughtery recites calculation of an expirationless option value. Claim 1 does not recite an expirationless option. Instead, and in contrast to Daughtery's teachings, Claim 1 recites a customized indexed call options **with a term, with more than one underlying one of which is a constant growth rate, and with the option to switch between the underlyings at predetermined times during the term.** Daughtery's expirationless option does not have a term, does not have a constant growth rate, and does not have the ability to switch between underlyings.

Columns 7-8 lines 1-67: Describe the Daughtery invention in more detail, but provides no teaching regarding the Claim 1 limitations discussed *supra*.

Column 12 lines 1-67: Describes Daughtery's implementation of the algorithm for pricing expirationless options. This implementation fails to cure Daughtery's fundamental lack of teaching of an option having the characteristics recited in Claim 1.

#### 5. Daughtery does not teach a term for an option

Claim 1 recites: "wherein said customized indexed call option comprises a term" As noted *supra*, Daughtery does not teach an option with a term. *In fact, Daughtery's entire focus is on an expirationless term.*

#### 6. Daughtery does not teach more than one underlying for an option

Claim 1 recites: "an index linkage to an index and a constant growth rate ..." That is, the option recited in Claim 1 has two underlyings. In contrast, Daughtery teaches options with only a single underlying, for example, as recited in Claim 1 of Daughtery.

#### 7. Daughtery does not teach switching between underlyings

Claim 1 recites: "presenting an option to switch between said index and said constant growth rate at predefined intervals during a term for said customized indexed call option" At

Attorney Docket No. GENP:101\_US  
U.S. Patent Application No. 09/893,633  
Reply to Office Action of May 31, 2007  
Dated: July 31, 2007

least because, as shown *supra*, Daughtery does not teach an option with a term, Daughtery cannot teach the above claim limitation. The Examiner cited the same excerpts from Daughtery as cited for the Claim 1 limitations regarding searching a data structure. Of particular note are the following excerpts:

Column 20 lines 43-67: The fundamental basis of all of Daughtery's assertions is an expirationless option calculation, which appears (Column 19, lines 1-54) to be based on a rearrangement of the Black-Scholes formula. The Black-Scholes formula does not apply to a customized indexed call option, at least because it does not allow for a switch between the underlyings (the index and the constant growth rate) as is recited in Claim 1.

Columns 21-24 lines 1-67: The discussion regarding col. 20 is applicable to this text as well.

For all the reasons noted above, Daughtery fails to teach each and every element of Claim 1. Therefore, Claim 1 is novel with respect to Daughtery. Claims 2 and 3, dependent from Claim 1, enjoy the same distinction with respect to Daughtery.

#### **Claim 17**

Claim 17 is an apparatus claim paralleling Claim 1; therefore, the arguments regarding Claim 1 are applicable to Claim 17 and Claim 17 is novel with respect to Daughtery. Claims 18 and 19, dependent from Claim 17, enjoy the same distinction with respect to Daughtery.

#### **Claim 4**

##### 1. Daughtery does not teach a term for an option

Claim 4 recites: "a customized indexed call option with a specified term.." Applicants have shown *supra* in the arguments for Claim 1 that Daughtery teaches only an expirationless term and does not teach a term for an option.

##### 2. Daughtery does not teach intervals in an option term

Claim 4 recites: "and specified notional amount  $n$  operatively arranged to allow an investor to choose notional amounts  $n_0$  and  $n_1$  at *specified intervals* within the term..." As noted

Attorney Docket No. GENP:101\_US  
U.S. Patent Application No. 09/893,633  
Reply to Office Action of May 31, 2007  
Dated: July 31, 2007

*supra*, Daughtery does not teach a term for an option; therefore, Daughtery cannot teach intervals for an option term.

### 3. Daughtery does not teach multiple underlyings

In Claim 4 there are two underlyings (the specified interest rate associated with notional amount  $n_0$  and the index associated with notional amount  $n_1$ ). Daughtery does not teach multiple underlyings.

For all the reasons noted above, Daughtery fails to teach each and every element of Claim 4. Therefore, Claim 4 is novel with respect to Daughtery.

## **Claim 5**

### 1. Daughtery does not teach a term for an option

Claim 5 recites: “a customized indexed call option with a specified term...” Applicants have shown *supra* in the arguments for Claim 1 that Daughtery teaches only an expirationless term and does not teach a term for an option.

### 2. Daughtery does not teach intervals in an option term

Claim 5 recites: “and specified notional amount  $n$  operatively arranged to allow an investor to choose notional amounts  $n_i$  at specified intervals within the term ...” As noted *supra*, Daughtery does not teach a term for an option; therefore, Daughtery cannot teach intervals for an option term.

### 3. Daughtery does not teach multiple underlyings

In Claim 5 there are at least two underlyings and possibly more. The first is the specified interest rate associated with notional amount  $n_0$ , and the rest are the indices associated with notional amounts  $n_1$  through  $n_k$ . Daughtery does not teach multiple underlyings.

For all the reasons noted above, Daughtery fails to teach each and every element of Claim 5. Therefore, Claim 5 is novel with respect to Daughtery.

## **Claims 6-10 and 20**

Each of Claims 6-10 and 20 recite: “presenting an option to switch between said index and said constant growth rate at predefined intervals during a term for said customized indexed call option, wherein said customized indexed call option comprises a term and a linkage to at

Attorney Docket No. GENP:101\_US  
U.S. Patent Application No. 09/893,633  
Reply to Office Action of May 31, 2007  
Dated: July 31, 2007

least two indices." This is the same limitation recited in Claim 1. Therefore, the arguments for Claim 1 are applicable to Claims 6-10 and 20 and Claims 6-10 and 20 are novel with respect to Daughtery.

Claims 11-16, dependent from Claim 10, enjoy the same distinction with respect to Daughtery. Claims 21 through 23, dependent from Claim 20, enjoy the same distinction with respect to Daughtery.

Applicants courteously request that the rejection be removed.

#### Item 6 in the Final Office Action

The Examiner stated: "Applinrant's claims 1, 6, 8-10, 17, and 20, states "searching a data structure based on a search criterion to determine" ability to switch between " linkage to an index ". However the subject matter of a properly construed claims is defined by the terms that limit its scope. It is this subject matter that must be examined. As a general matter, the grammar and intended meaning of terms used in a claims will dictate whether the language limits the claims scope. Language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of a claims or claims limitation. The following are examples of language that may raise a question as to the limiting effect of the language in a claim:

- (A) statements of intended use or field of use,
- (B) "adapted to" or "adapted for" clauses,
- (C) "wherein" clauses, or
- (D) "whereby" clauses.

This list of examples is not intended to be exhaustive. See also MPEP § 21 11.04."

#### 1. Limitations related to searching a data structure

It appears the Examiner is questioning the limitation of Claims 1 and 17: "searching a lattice data structure based on said range from the group to determine at least one intermediate value of said customized indexed call option" in the above excerpt from the Office Action. Specifically, the Examiner appears to be stating that the above claim limitation is regarding an

Attorney Docket No. GENP:101\_US  
U.S. Patent Application No. 09/893,633  
Reply to Office Action of May 31, 2007  
Dated: July 31, 2007

intended use, since the limitation is clearly not an "adapted to" or "adapted for" clause, a "wherein" clauses, a "whereby" clause, or any clause of that ilk.

Applicants respectfully disagree that the above claim limitation is an intended use. Clause (a) of Claim 1 is a method step clearly establishing ranges and clause (b) is a method step clearly reciting searching using the ranges recited in clause (a). Claim 17 is an apparatus claim mirroring Claim 1; therefore the preceding arguments are applicable to Claim 17 as well.

There is no intended use in the above clauses and there is nothing in the intended meaning or language of the above limitations that calls the above limitation into question.

## 2. Limitations regarding an option to switch

It appears the Examiner is questioning the limitation of Claims 1 and 17: "wherein a holder of said customized indexed call option has the ability to switch between said index and said constant growth rate at predefined intervals during a term for said option." The claims have been amended as follows: "presenting an option to switch between said index and said constant growth rate at predefined intervals during a term for said customized indexed call option"

The amended limitation clearly recites a method step of presenting an option. This limitation is not directed to the holder and is in no way dependent upon an action by the holder. Further, there is nothing in the recitation of this step that enables this step to be construed as optional.

## 3. Limitations regarding wherein clauses

Claims 6, 8-10, and 20 recite: "wherein said customized indexed call option comprises a term and an index linkage to an index and a constant growth rate"

The Examiner appears to be questioning the limiting effect of the above clause, based on the recitation of "wherein" in this clause. Specifically, the Examiner appears to be asserting that the recitation of "wherein" makes the limitations in the above clauses optional.

MPEP2111.04 states: "Claim scope is not limited by claim language that suggests or makes optional but does not require steps to be performed, or by claim language that does not limit a claim to a particular structure."

Attorney Docket No. GENP:101\_US  
U.S. Patent Application No. 09/893,633  
Reply to Office Action of May 31, 2007  
Dated: July 31, 2007

There is nothing optional about "wherein said customized indexed call option comprises a term and an index linkage to an index and a constant growth rate" Further; this limitation clearly recites the structure of the call option.

MPEP 2111.04 states: "The determination of whether each of these clauses is a limitation in a claim depends on the specific facts of the case. In *Hoffer v. Microsoft Corp.*, 405 F.3d 1326, 1329, 74 USPQ2d 1481, 1483 (Fed. Cir. 2005), the court held that when a "'whereby' clause states a condition that is material to patentability, it cannot be ignored in order to change the substance of the invention." *Id.* However, the court noted (quoting *Minton v. Nat'l Ass'n of Securities Dealers, Inc.*, 336 F.3d 1373, 1381, 67 USPQ2d 1614, 1620 (Fed. Cir. 2003)) that a "'whereby' clause in a method claim is not given weight when it simply expresses the intended result of a process step positively recited." *Id.*"

The clear focus of this section of the MPEP is on clauses that express an intended result, for example, of a method step. In particular, the focus is on "whereby" clauses that express an intended result. This focus could be extended to "wherein" clauses that express an intended result. However, the wherein clause of the above claims does not express an intended result, for example, of a method claim.

The Examiner stated: "\*\*\*>USPTO personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55,44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997)." Applicants fail to see the significance of this citation. There is nothing in the instant application that in any way questions the limitations recited in the above claims.

The Examiner also stated: "Limitations appearing in the specification but not recited in the claim should not be read into the claim. *E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1369, 67 USPQ2d 1947, 1950 (Fed. Cir. 2003) (claims must be interpreted "in view of the specification" without importing limitations from the specification into the claims unnecessarily). *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969). See also *In re Zletz*, 893 F.2d 319,321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) ("During patent examination the pending claims must be interpreted as broadly as their terms reasonably allow

Attorney Docket No. GENP:101\_US  
U.S. Patent Application No. 09/893,633  
Reply to Office Action of May 31, 2007  
Dated: July 31, 2007

.... The reason is simply that during patent prosecution when claims can be amended, ambiguities should be recognized, scope and breadth of language explored, and clarification imposed .... An essential purpose of patent examination is to fashion claims that are precise, clear, correct, and unambiguous.

Only in this way can uncertainties of claim scope be removed, as much as possible, during the administrative process.").<"

Apparently, the Examiner is asserting that Applicants are arguing a limitation from the specification that is not recited in the claims. Applicants respectfully disagree and request that the Examiner provide an example of such an argued limitation.

The Examiner stated: "Where an explicit definition is provided by the applicant for a term, that definition will control interpretation of the term as it is used in the claim. *Toro Co. v. White Consolidated Industries Inc.*, 199 F.3d 1295, 1301, 53 USPQ2d 1065, 1069 (Fed. Cir. 1999) (meaning of words used in a claim is not construed in a "lexicographic vacuum, but in the context of the specification and drawings."). Any special meaning assigned to a term "must be sufficiently clear in the specification that any departure from common usage would be so understood by a person of experience in the field of the invention." *Multiform Desiccants Inc. v. Medzam Ltd.*, 133 F.3d 1473, 1477, 45 USPQ2d 1429, 1432 (Fed. Cir. 1998). See also MPEP § 21 11.01."

The Examiner is apparently asserting that Applicants have failed to properly define a term used in the claims. Applicants respectfully disagree and request that the Examiner provide a specific example supporting the relevancy of the above citation.

Applicants respectfully submit that item 6 from the Office Action has no bearing on the allowability of Claims 1, 6, 8-10, 17, and 20.

Attorney Docket No. GENP:101\_US  
U.S. Patent Application No. 09/893,633  
Reply to Office Action of May 31, 2007  
Dated: July 31, 2007

**Conclusion**

Applicant respectfully submits that all pending claims are now in condition for allowance, which action is courteously requested.

Respectfully submitted,

/C. Paul Maliszewski/

C. Paul Maliszewski  
Registration No. 51,990  
CUSTOMER NO. 24041  
Simpson & Simpson, PLLC  
5555 Main Street  
Williamsville, NY 14221-5406  
Telephone No. 716-626-1564

CPM/  
Dated: July 31, 2007